



# Farmers Grow MyPlate

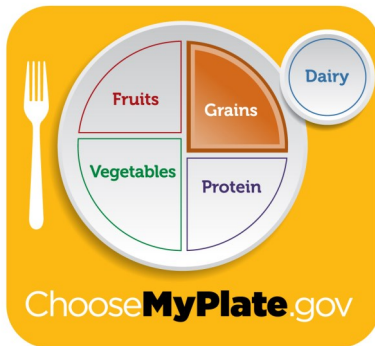
South Dakota State University

Team Nutrition Student Curriculum

## MyPlate Grains Group

### Key Messages:

- Make at least half your grains whole grains. Choose from whole grain foods such as whole -wheat bread, oatmeal, whole-wheat tortillas, brown rice, and popcorn.
- Depending on your age, you should eat 5 or 6 servings of these every day. A serving is a small bowl of cereal, one slice of bread, a scoop of rice or pasta, or a small bowl of popcorn.
- SD farmers grow many valuable grains with most being fed to livestock and some made into oil.



### Lesson Objectives:

1. Describe how grains are raised and processed to become food for human consumption.
2. Recognize healthy choices among grain-based products.
3. Using food safety practices prepare and sample a healthy grain-based snack.

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### Essential Questions:

- How are grains raised in SD?
- What other uses are there for the grains grown here?
- What healthy grains and grain-based foods do you usually consume?
- How can grain-based foods be prepared?



## Grains Group Planning Guide

Lesson	Equipment/Supplies	Duty	Person
Nutrition	<p>What is a Grain: food model cards, posters: “What is a Grain”, “Make Half Your Grains Whole”, “Grains for Fiber”, handout: “Go for the Grains”</p> <p>Great Grains Debate: debate script, crowns, ballot, review handout</p>		
Food Preparation	<p>Tortilla Wrap Up: flour or corn tortillas, low-fat salad dressing/ cottage cheese/cream cheese, chopped vegetables, instruction poster</p> <p>Trail Mix: bran chex, “O” cereal, flavored “O” cereal, peanuts/sunflower nuts, coconut, instruction poster</p>		
Production	<p>More Than Dirt: sample boards, “Soil Facts” posters,</p> <p>Feeling Soil: salt, flour, modeling clay, water, soil, clear jar, dish detergent, ruler, white card, “Layers of Soil” instructions poster</p> <p>Grain Farming: SD Rank in US Agriculture—Grains crossword, USDA Farming Rank Handouts, Grains Ag Census Maps, How Do You Grow? Sorting cards</p>		
Physical Activity	Plant Needs cards		
Arts & Crafts	<p>Rainbow Rice: white rice, white vinegar, food coloring, large plastic bags, jar/letter signs/plastic tote</p> <p>Grain-filled Maracas: plaster egg, decorative tape, plastic spoons, instruction poster</p>		
Review/Wrap-Up	Memory Game Cards		

## Nutrition

### What is a Grain? 20-25 min.

Introduce the grains group by showing the MyPlate poster. Tell the students:

“Grains provide vitamins and minerals to help you feel good, fuel your brain, and provide fiber that clears away the wastes in your digestive system and cholesterol in your blood stream. We will examine why grains are important in our diet and the difference between whole and refined grains.”

1. Show the 3 whole grain posters “**What is a grain?**” and “**Make Half Your Grains Whole**”. Describe whole grains and refined grains using the posters. Show the jars containing grain and flour samples.
2. Reinforce the information by showing a portion of the following video: <https://www.youtube.com/watch?v=j6OWmgqrcbY>
3. Using the diagram “**Grains for Fiber**” describe types of fiber and how plants, including grains, provide the two types—soluble and insoluble. Play the video at <https://www.youtube.com/watch?v=1PI10SEeIf8#t=15>



*“Make Half Your Grains Whole”*

4. Form teams of two students to complete the “**Go for the Grains**” race.
5. Instruct teams to travel to each food model card, find, and record onto the **Go for the Grains Worksheet** the amount of total fiber in the set of grain foods.
6. Set up the following **food model cards** at stations around the room or area.

- |                        |                               |
|------------------------|-------------------------------|
| • Oat cereal           | • Macaroni                    |
| • Wheat squares cereal | • Granola                     |
| • White bread          | • Corn tortilla               |
| • Whole wheat bread    | • Popcorn                     |
| • Brown rice           | • Whole wheat muffins         |
| • Whole wheat macaroni | • Whole wheat pan-cake/waffle |

#### Processing:

Check for accuracy when they are complete. Reinforce the benefits of whole grains versus refined grains. Remind them that other plants like fruits, vegetables, and legumes have lots of fiber too.

### Whole Grain Debate 15-20 min.

Tell students:

“The purpose of this lesson is to learn about the benefits of whole grain foods, and the number of servings of whole grain foods that are recommended to eat each day.”

1. Select adults or older students to play the roles of “Berry Wheat”, “Harry Oats” and “King Corn”. Provide the script so that they can become familiar with their role. Have podiums if possible and yellow/tan/brown costumes. Paper crowns of wheat or oat stems or corn leaves add interest. Candidates

give out banners for listeners to wave during their speeches.

2. Ask the students to follow along with the debate by completing the activity sheet during the debate. They will then vote for their favorite candidate.
3. Present the skit. Have the students vote by putting their ballots into a ballot box decorated with grain pictures.
4. Announce the results of the vote.





# What is a grain?

- Wheat
- Barley
- Popcorn
- Corn
- Rye
- Flour made from one of these grains
- Oats
- Rice

## How is a whole grain different from a refined grain?

**WHOLE**= all of the kernel is in the food

**REFINED**=outer coating and germ are removed before grinding or cooking



# Make Half Your Grains Whole!



**Bread made from  
whole grain flour**

**Oatmeal or  
whole grain  
cereal  
(Cheerios,  
Grape Nuts,  
Wheaties)**



**Tortillas or chips  
made from  
whole wheat or  
whole corn**



- Baked things may or may not have whole grain
- Read the label for ingredients list
- First grain ingredient should say “WHOLE”



# Go for the Grains

Examine the Nutrition Facts on the back of the food model cards. Record the grams of dietary fiber.  
Circle the high fiber foods that you like from the lists below.

WHOLE GRAIN FOOD	GRAMS OF DIETARY FIBER	WHOLE GRAIN FOOD	GRAMS OF DIETARY FIBER
Oat cereal		Macaroni	
Wheat squares cereal		Granola	
White bread		Corn tortilla	
Whole wheat bread		Popcorn	
Brown rice		Whole wheat muffins	
Whole wheat macaroni		Whole wheat pancake/waffle	

## Top High Fiber Foods



GRAINS AND PASTA	SERVING SIZE	TOTAL FIBER (gm)
Whole wheat flour	1 cup	14.6
Spaghetti, whole wheat	1 cup	6.3
Whole wheat bagel	1 small	6
Whole wheat English muffin	1	4.4
Whole wheat bread	1 slice	1.9
Bran and high fiber cereals	½ cup	10-14
Popcorn, air popped	3 cups	3.6
Raisin bran	¾ cup	5.4
Oatmeal	1 cup	4
LEGUMES, NUTS & SEEDS	SERVING SIZE	TOTAL FIBER (gm)
Lentils	1 cup	15.6
Black beans	1 cup	15
Kidney beans	1 cup	14.6
Baked beans, canned	1 cup	10.4
Almonds	24 nuts	3.3
Peanuts	26 nuts	2.3

VEGETABLES	SERVING SIZE	TOTAL FIBER (gm)
Peas	1 cup	8.8
Potato, baked with skin	1 medium	4.4
Corn	1 cup	4.2
Broccoli	1 cup	4.6
Tomato paste	¼ cup	3
Carrot	1 medium	2
FRUIT	SERVING SIZE	TOTAL FIBER (gm)
Pear	1 medium	5.1
Blueberries	1 cup	3.5
Apple with skin	1 medium	3.3
Strawberries	1 cup	3.3
Orange	1 medium	3.1
Prunes	3 medium	3
Banana	1 medium	3
Apricots	1 medium	2.6
Raisins	¼ cup	1.5

## **The Whole Grains Debate Script**

### **Format**

The debate is between Berry Wheat, who represents the “Heart Healthy Grain Party”, King Corn, who represents the “Golden Grain Party,” and Harry Oats, from the “Cholesterol Lowering Grain Party.” The Moderator will be the activity leader of the lesson and the candidates should stand in front of the room.

### **Moderator (Opening Statements):**

Welcome to the presidential debate between Berry Wheat from the “Heart Healthy Grain Party,” King Corn from the “Golden Grain Party,” and Harry Oats from the “Cholesterol Lowering Grain Party.” This debate will be exciting and helpful as you think about the good results of eating whole grain foods. Berry Wheat is from the southwest counties of South Dakota. Mr/Ms. Wheat is of the whole grain wheat family, which is the source of the world’s finest bread flours. King Corn is from the farmland of Minnehaha County of South Dakota. King Corn is another whole grain that contains many important nutrients, including fiber. Harry Oats is a hometown favorite and is from right here in \_\_\_\_\_. Mr/Ms. Oats is a whole grain that lowers cholesterol (a type of fat) while keeping the heart healthy. These grains who are asking for your votes are called candidates.

At the end of the debate, the winner will be chosen by your votes. The winner will become the President of the Whole Grains at \_\_\_\_\_ (location of Farmers Grow MyPlate Camp). Since you want to vote for the best candidate, you must listen carefully. May the best candidate win!

The important issues the candidates will discuss in today’s debate are:

Why should we eat whole grain foods daily?

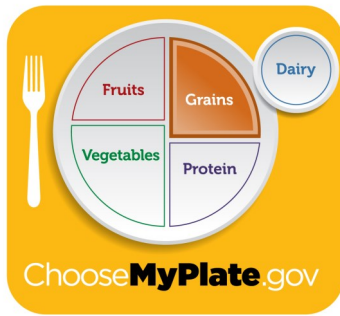
How many servings of whole grain foods should students eat every day?

Do you eat three whole grains every day? If not, how could you?

We will now hear the opening comments from each candidate. Berry Wheat from the “Heart Healthy Grain Party” will give the first statement.



<p>Vote by checking the box next to your favorite candidate.</p> <p><b>Berry Wheat</b></p> <p><b>Harry Oats</b></p> <p><b>King Corn</b></p>  <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>	<p>Vote by checking the box next to your favorite candidate.</p> <p><b>Berry Wheat</b></p> <p><b>Harry Oats</b></p> <p><b>King Corn</b></p>  <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>
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## Tortilla Wrap-Up

### Materials per 4 member group

#### Ingredients:

- 4 whole grain flour or corn tortillas
- 4 teaspoons low-fat salad dressing, cottage cheese, or cream cheese
- 1 cup chopped vegetables (carrot, zucchini, broccoli, pepper, cauliflower)

#### Utensils:

- 1 set measuring cups and spoons
- Cutting board
- Child safe knife or chopper
- Paper plate

### Activity

Begin with clean hands.

Pick up ingredients and equipment at the supplies table.

1. Spread each tortilla with 1 teaspoon salad dressing, cottage cheese, or cream cheese.
2. Chop or slice vegetables into thin strips. Add 1/4 cup of chopped vegetables .
3. Roll up the tortilla.
4. Enjoy.



Remember to follow the Tasting Code.  
Collect a Two Bite Certificate if you have not tasted  
this before.



## Tortilla Wrap-Ups



**1. Spread each tortilla with 1 tsp. salad dressing, cottage or cream cheese.**

Photo Attribution: <http://www.cancer.gov>



**2. Chop or slice vegetables into thin strips. Add 1/4 cup of chopped vegetables and roll up the tortilla.**



**ENJOY!**

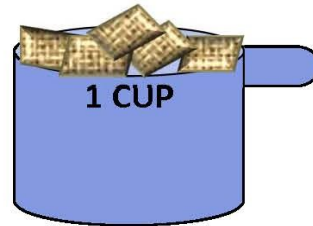




## TRAIL MIX

Mix together in a large bowl.

- 1 cup “chex” type bran cereal



-1 cup “O” type cereal



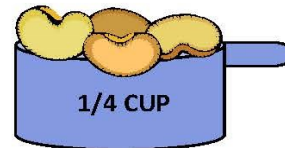
-1 cup flavored “O” type cereal,  
(apple cinnamon, honey nut, etc)



-¼ cup raisins



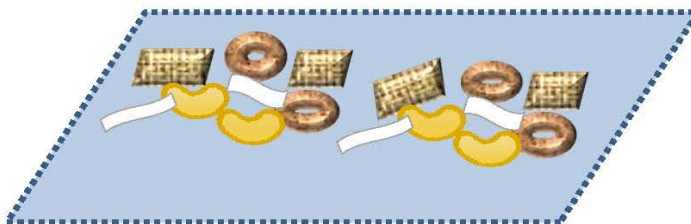
-¼ cup peanuts or sunflower seeds



-¼ cup shredded coconut



Eat dry or with milk.



## Grains Production

### More Than Dirt 10-15 min.



1. Divide into groups of 4 students.
2. Tell the students:

“South Dakota is a Midwestern state that grows many types of grain plants both for people and for animals to eat. Driving through the countryside it is common to see corn, oats, wheat, sorghum, and occasionally flax or barley.”

3. Show the Grains Sample poster depicting a cereal grain plant, barley. Point out the roots, stem, leaves, and seeds.
  4. Show the corn, oats, and wheat on the Grains Sample poster. Pass the grain samples and identify each type of grain.
  5. Show the Soil Facts posters. Abbreviate this information for younger children. Tell the students:
- Growing grain starts with good soil. SD soils vary across the state but generally are quite good for growing

- Soil is the foundation of life. Everything we need for life starts with soil. Air, water, minerals and organic matter make up healthy soil. One teaspoon of healthy soil contains millions of living organisms.
- Soil type is important for plant growth. South Dakota has over 500 soil types. “Houdek” (hoo-deck) was named our state soil in 1989. Houdek soil is the most predominant type and is typical of the soils formed under the influences of prairie grasses.
- It can take 500 years or more to form one inch of topsoil! That is why we need to take care of our soil. Farmers and ranchers take special care of the soil. They work to protect the topsoil.
- Topsoil is the best place for plants to grow. Wind and water can take away this important layer of soil if it is not protected. No-till farming and conservation tillage are ways that farmers and ranchers save the topsoil.

#### Processing:

Point to Grains Sample and the Soil Facts poster and call upon students to restate the information in their own words.

### Feeling Soil 10-15 min.

grains.

- SOIL is dirt’s ‘official’ name. Soil does all of these things:  
\*Holds the roots of plants in the ground, \*Holds water in the ground for roots to drink, \*Holds minerals that plants use for food
  - Becomes “dirt” when it is out of place, like under fingernails or on shoes.
1. Provide a small amount of salt, flour, and modeling clay per team.
  2. Rub salt between your thumb and finger to give an idea of what the sand in soil feels like. Have students describe how it feels. Add a few drops of water and describe how it changes.
  3. Have them feel some flour between their fingers. Describe. This is how silt feels. Add a few drops of water. Describe how it feels and sticks together.
  4. Have them feel some modeling clay. Describe. This is how

clay feels in the soil. Add a few drops of water and describe how it changes.

#### Layers of Soil:

1. Provide each group with 1 cup of dry, finely crushed soil (remove grass, sticks, stones, and leaves), 1-quart clear jar with lid, liquid dishwashing detergent, pencil, water, ruler, white card.
2. Fill the quart jar 2/3 full of water and pour the cup of soil into the jar.
3. Add 3 tablespoons of detergent, cover the jar tightly, and shake well for 5 minutes.

*“Particles of sand, loam, silt, and clay comprise soil. Different combinations making soils well-suited or not-suited to growing grains.”*

# Grains Production

## Grain farming 20-25 min.

Tell the students:

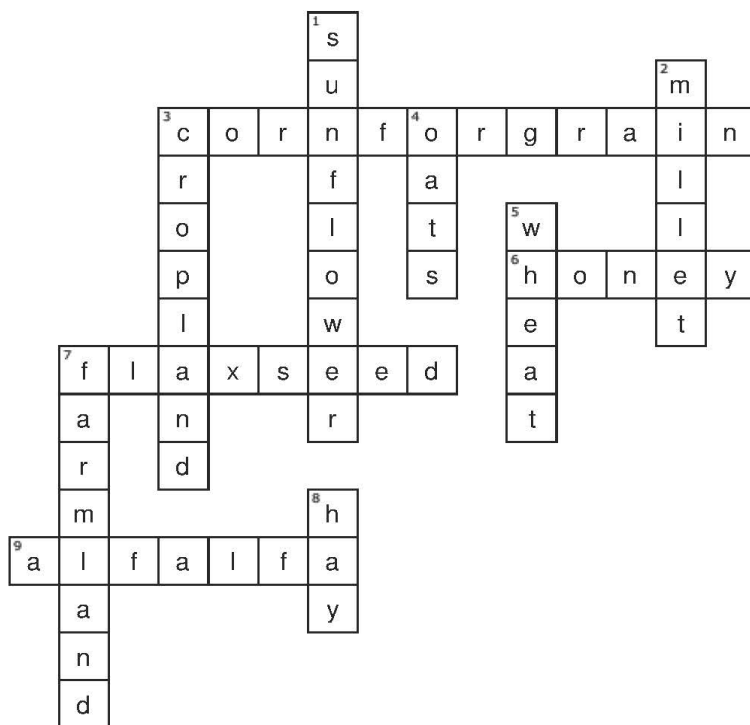
“There is a lot that goes into planting, harvesting, and then processing these grains for people to eat. If they are fed to animals, then there are even more steps before the food reaches your table in the form of meat, eggs, or milk.

1. Show the video: Discovery How Stuff Works: Wheat <https://www.youtube.com/watch?v=F4VoVLlyuS0> Shorten the presentation, play 0:00 to 10:30, then 12:45 to 16:30.
2. Discovery How Stuff Works: Corn <https://www.youtube.com/watch?v=LGJ6D3KNJ9E> Shorten the presentation, play 0:00 to 4:00 then 15:30 to 17:00.

3. Distribute the grain farming steps to small groups of students. Instruct them to sort steps in the order that they are done when raising grain crops.
4. Check for accuracy and describe the steps as needed.
5. Show and discuss the Grains Ag Census map. Identify the counties in SD that grow grain.  
[www.agcensus.usda.gov/Publications/2012/OnlineResources/AgCensusWebMaps/](http://www.agcensus.usda.gov/Publications/2012/OnlineResources/AgCensusWebMaps/)

Give the students the Ag Census Facts for Grain Crops chart and the crossword puzzle. They can use the census facts to complete the crossword.

## South Dakota Ranks in US Agriculture - Grains **Key**



## Field trip option 45-90 min.

If a field trip to a grain farm or elevator is possible, ask questions to have the farmer or elevator worker address the following concepts:

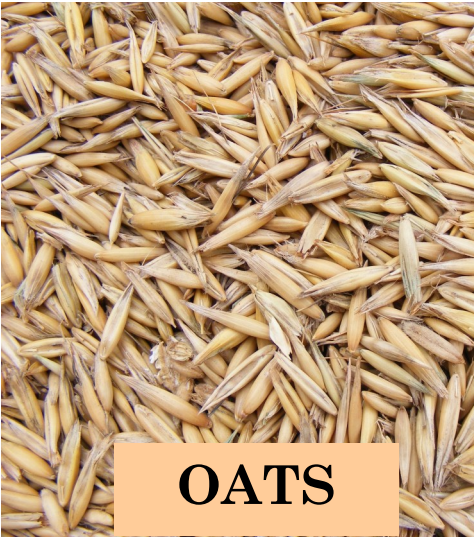
1. What grain do you grow (or store)? What is your grain used for?
2. What is the grain growing and harvesting season like?
3. What equipment do you use? Observe some equipment.
4. What kind of soil do you have? How do you keep it full of nutrients?
5. What do you like best about grain farming (managing a grain elevator) ? Least?



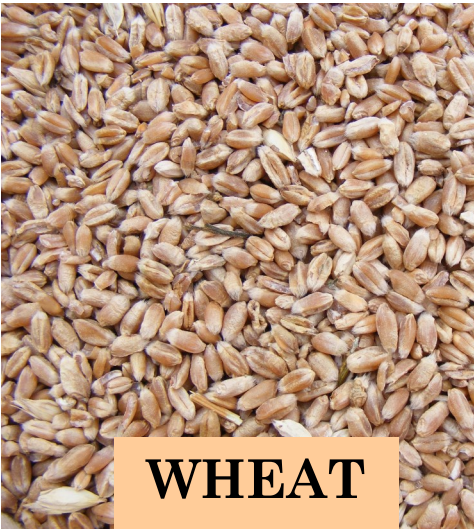
# GRAINS SAMPLES



**CORN**



**OATS**



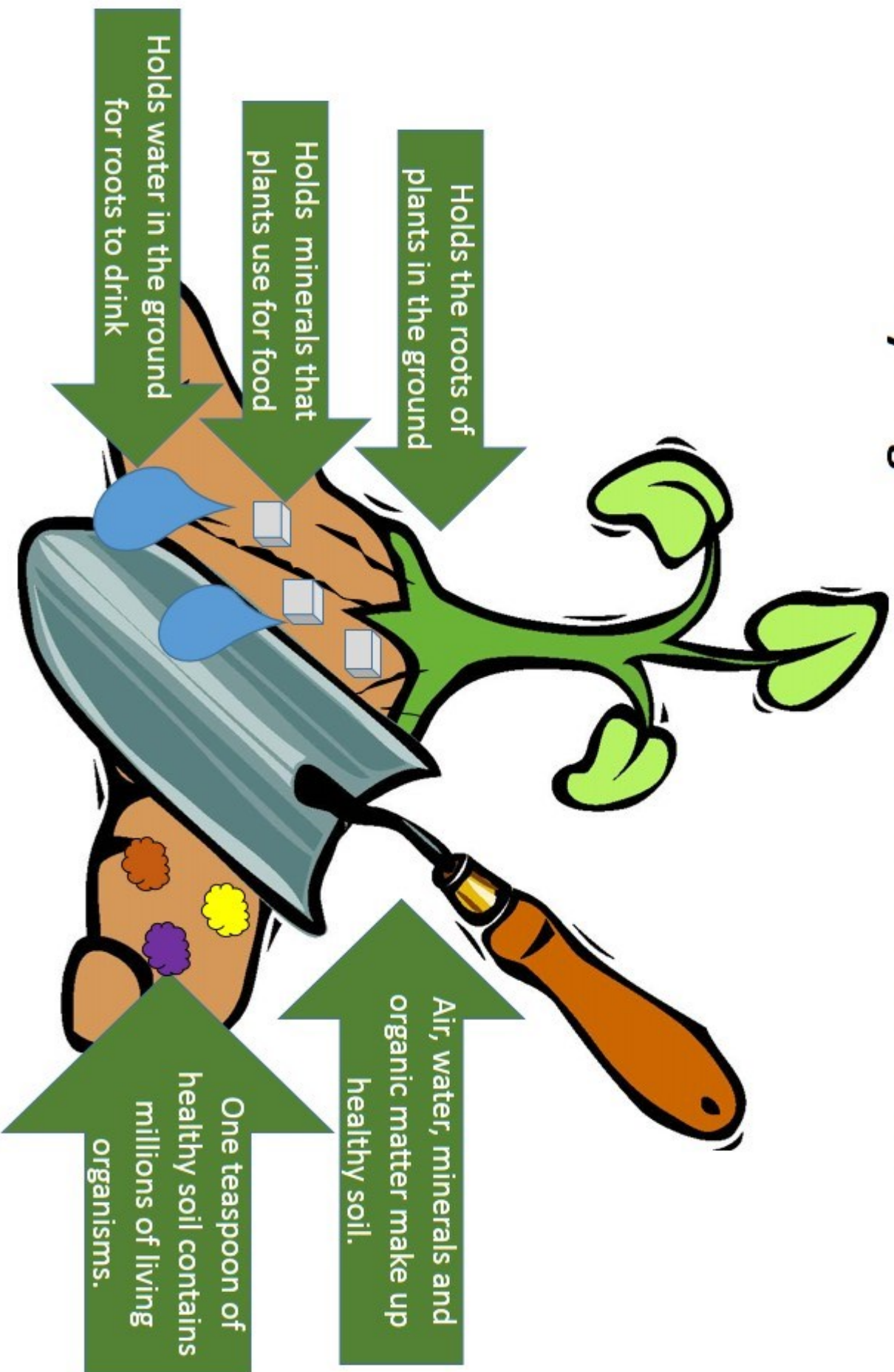
**WHEAT**



**BARLEY**

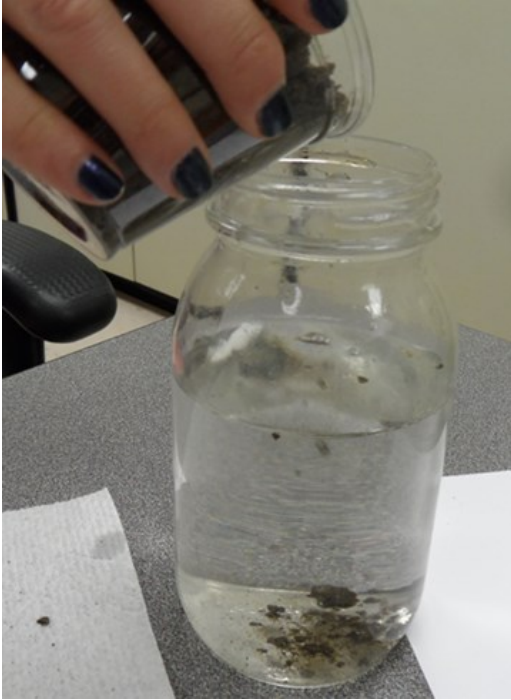
# Soil is the foundation of life!

## Everything we need for life starts with soil.





## Layers of Soil



Fill a quart jar 2/3 full of water. Add 1 cup dry soil.



Add 5 Tablespoons of liquid dish detergent. Cover the jar tightly. Shake for 5 minutes- Let the jar sit until the next day. .



Place white paper next to the jar and mark on the card where each layer of soil settled.

How many inches of soil are in the jar?

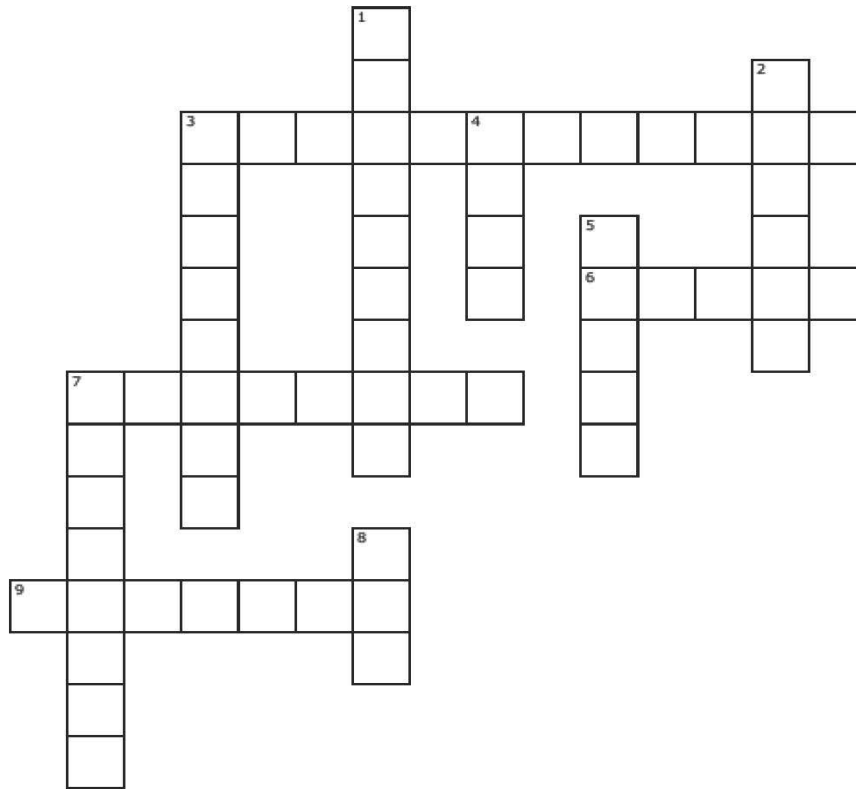
How many inches of clay?  
(Top layer)

How many inches of silt? (Middle layer)

How many inches of sand?  
(Bottom layer)



## South Dakota Ranks in US Agriculture - Grains

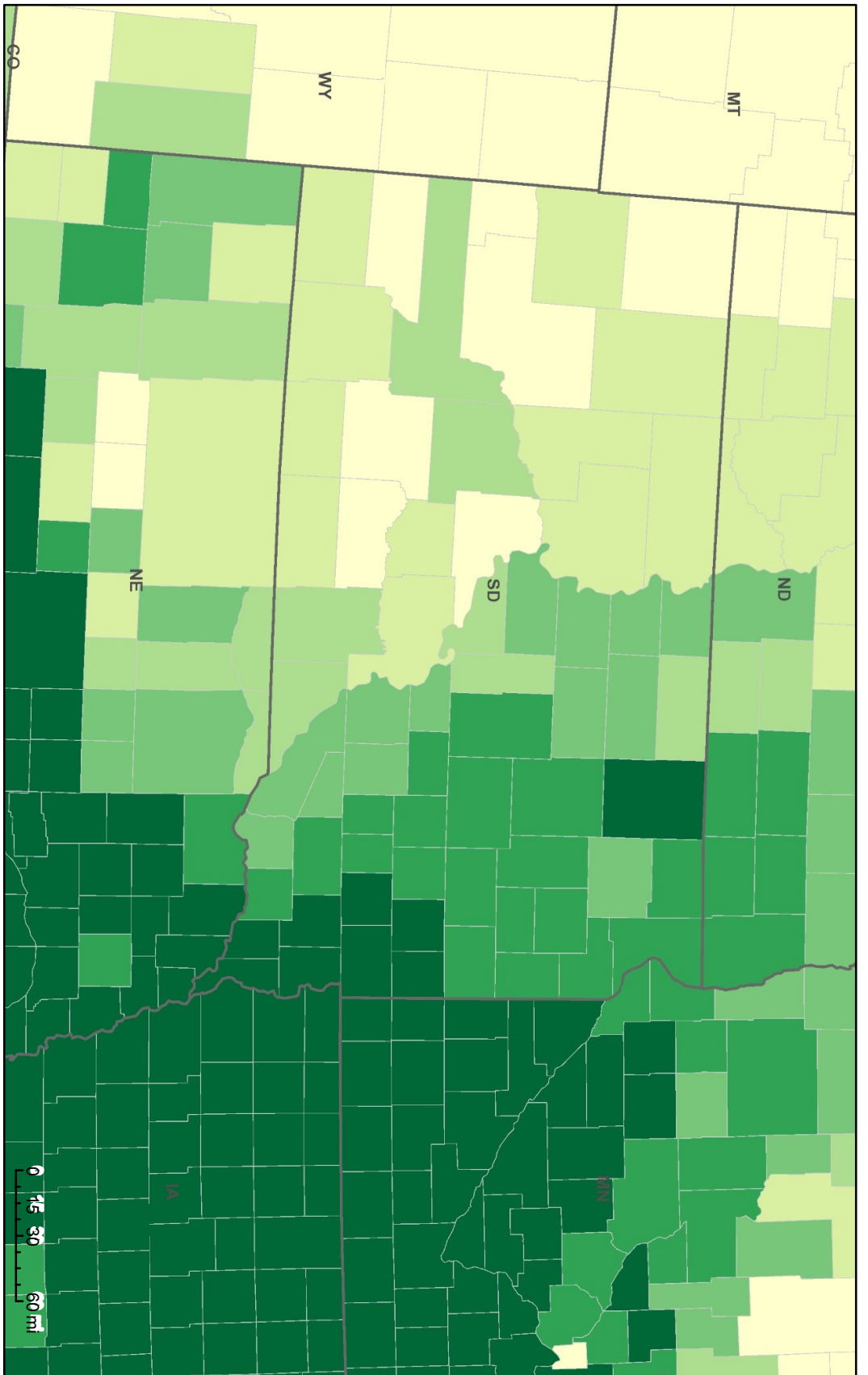


### Across

- 3. SD ranks 6th for production of
- 6. SD ranks 3rd for production of
- 7. SD ranks 3rd for production of
- 9. SD ranks 4th for production of

### Down

- 1. SD ranks 1st for production of
- 2. SD ranks 2nd for production of
- 3. SD ranks 8th for production of
- 4. SD ranks 1st for production of
- 5. SD ranks 7th for production of
- 7. SD ranks 5th for amount of
- 8. SD ranks 6th for production of



Acres of Corn Harvested for Grain as Percent of Harvested Cropland Acreage: 2012

NASS map ID: 12-M161

Date: 4/24/2015

Note: For data collection, some county equivalent entities in AK, HI,

Less than 515 - 2435 - 44 MD, MO, and VA are included in other county equivalent entities.

Source: USDA National Agricultural Statistics Service, ESRI.

5 - 1425 - 3445 or more

For more information: [http://www.agcensus.usda.gov/Publications/2012/Online\\_Resources/Ag\\_Census\\_Web\\_Maps/Overview/](http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Ag_Census_Web_Maps/Overview/)

[www.agcensus.usda.gov/Publications/2012/Online\\_Resources/Ag\\_Census\\_Web\\_Maps/](http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Ag_Census_Web_Maps/)

## HOW DO YOU GROW?

Provide one set of plant growth steps to each team of students. For younger children use only the steps that are bolded in the key. Arrange in the order that they will occur. Check and discuss.

The tiny flowers begin to form and grow into a seed head after pollination. Each plant has one seed head. Each seed head has 40 seeds.

Wheat is harvested in dry weather by a large combine. Grain is augered from the combine hopper into grain carts and then into semi trucks.

Plants grow quickly, it takes about four months from planting to harvest.

Farmer is paid market price for his/her grain minus the fees for handling and storage at the grain elevator.

The straw roots are left in the field. The straw stems might be baled for animal bedding. The farmer begins to plan for next year.

Grain trucks are driven off the weigh scales and dumped from the farmers' truck into the elevator's hopper.

Chemicals to kill weeds and diseases are sprayed with a boom-type or airplane sprayer when the cereal grain plant is less than a foot tall.

Cereal grain seeds are poured into the planter, which is pulled behind a tractor.



Cereal grains begin to ripen: the process of the plants fading from green to a yellowish-brown. The leaves of the grain plant dry and tip downward.

Seed heads tip downward from the stems and the seeds inside become hard and dry. Grain seeds dry to the moisture level of 13 percent.

Cereal grains need sunshine and temperatures between 70 to 80 degrees Fahrenheit. As the plants are growing, farmers will scout them to make sure they are not being damaged by insects or disease.

Grains are processed into products such as flour or meal, plastics, and fuel.

Once cereal grains are clean and dry they are shipped to processing plants. Some grains are shipped to other countries.

Soil is prepared for planting and fertilizer, which provides nutrients, may be added.

The planter drops grain seeds one at a time into narrow rows about two inches apart and then covers them with a layer of soil.

Grain is hauled to the local grain elevator where it is weighed and a moisture sample is taken.

Cereal grains are planted in April to May when soil temperatures are about 50 to 60 degrees Fahrenheit. Winter wheat is planted in the fall.

The seed grows a cotyledon, a stem with a little round leaf, the cotyledon pops through the ground.

The grain grows a tail-like root called a radical. This becomes the plant's main root for absorbing water and nutrients.

Rain falls occasionally during the growing season and the plant grows taller by as much as an inch a day.

KEY (\*Some steps are general and may be placed a bit higher or lower on the chart.)

**For younger ages use only the steps that are in bold.**

1. Soil is prepared for planting and fertilizer, which provides nutrients, may be added.
2. \*Cereal grains are planted in April to May when soil temperatures are about 50 to 60 degrees Fahrenheit.
3. **Cereal grain seeds are poured into the planter, which is pulled behind a tractor**
4. **The planter drops grain seeds one at a time into narrow rows about two inches apart and then covers them with a layer of soil.**
5. The grain grows a tail-like root called a radical. This becomes the plant's main root for absorbing water and nutrients.
6. The seed grows a cotyledon, a stem with a little round leaf, the cotyledon pops through the ground.
7. \*Rain falls occasionally during the growing season and the plant grows taller by as much as an inch a day.
8. **\*Plants grow quickly, it takes about four months from planting to harvest.**
9. **\*Cereal grains need sunshine and temperatures between 70 to 80 degrees Fahrenheit. As the plants are growing, farmers will scout them to make sure they are not being damaged by insects or disease.**
10. Chemicals to kill weeds and diseases are sprayed with a boom-type or airplane sprayer when the cereal grain plant is less than a foot tall.
11. The tiny flowers begin to form and grow into a seed head after pollination. Each plant has one seed head. Each seed head has 40 seeds.
12. **Cereal grains begin to ripen: the process of the plants fading from green to a yellowish-brown. The leaves of the grain plant dry and tip downward.**
13. Seed heads tip downward from the stems and the seeds inside become hard and dry. Grain seeds dry to the moisture level of 13 percent.
14. **Wheat is harvested in dry weather by a large combine. Grain is augered from the combine hopper into grain carts and then into semi trucks.**
15. Grain is hauled to the local grain elevator where it is weighed and a moisture sample is taken.
16. Grain trucks are driven off the weigh scales and dumped from the farmers' truck into the elevator's hopper.
17. Farmer is paid market price for his/her grain minus the fees for handling and storage at the grain elevator.
18. Once cereal grains are clean and dry they are shipped to processing plants. Some grains are shipped to other countries.
19. **Grains are processed into products such as flour or meal, plastics, and fuel.**
20. The straw roots are left in the field. The straw stems might be baled for animal bedding. The farmer begins to plan for next year.

## Physical Activities

### Pizza Tag 15 min.

The object of the game is to get from one end of the playing area to the other without being tagged by the “Pizza Makers”. Depending on the size of your group, one or two “pizza makers” are named and the rest of the group are “toppings”.

Tell the students:

“Pizza dough is one fun way to eat whole grains. You can think about ways to make pizza a healthy treat while being very active.”

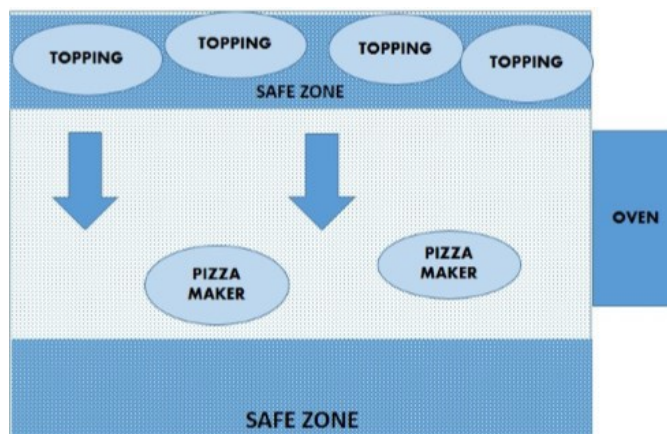
Name 3 or more healthy ingredients (crust, sauce, cheese, broccoli, peppers, pineapple, etc.) and assign each runner a topping. Use tags to label ingredients for young students.

The “pizza makers” stand in the middle of the play area blocking the route to the safe end. “Pizza makers” call out an ingredient which must then run past them to the safe zone without getting tagged.

If they get tagged they go to the “oven” on the sideline. When a majority of the group are captured call out “Open the Oven” to get everyone back into play again. Switch “pizza makers”.

View a demonstration at

[http://www.youtube.com/watch?v=qjBgHP\\_](http://www.youtube.com/watch?v=qjBgHP_)



### Plant Needs Game 15 min.

Students will learn the five main things plants need to live: water, sunlight, air, soil, and space. You will need at least 12 students to play this game.

1. Prepare plant need cards in sets of 5. Add additional cards to suit the group size.
2. Hold 2 students as “seeds” and give them each a home location.
3. Place all other students in a line at a distance from the seeds. Distribute plant need cards to the others who should not show them.



4. Review plant needs: water, sunlight, air, soil, and space. Instruct each “seed” to collect its 5 growing needs one need per trip by stopping before a student in the line and asking for one thing at a time. If the student has what they asked for, they link arms and return to touch home base.

5. They return together to the line to get the rest of their needs adding to the chain each trip.
6. If the one asked does not have the plant need then the seed touches base quickly and returns to ask another. If the one asked has a need but the seed al-

ready has it, then the seed chain again touches base and comes back to ask someone else.

7. The seed team that fills all 5 needs first is the winner.

Copy in sets of 5 and cut apart.

**WATER**

**SUNLIGHT**

**AIR**

**SOIL**

**SPACE**

Modified from: <http://steminthegarden.org/>



## Arts and crafts

### Rainbow Rice 15-20 min.

1. The day before the activity prepare the rainbow rice.
2. Gather:
  - 15 – 20 pounds of white rice
  - white vinegar
  - food coloring
  - several large plastic bags
3. To each plastic bag add 5 cups of rice as well as 2 – 3 tablespoons of vinegar and around 30 – 40 drops of food coloring (more for darker colors).
4. Seal the bag and mix and shake until the colors
5. are evenly distributed.
5. Next, open the bags and allow them to air out overnight.
6. Use the rainbow rice
  - in a sensory box
  - layer colors in a clear cup like sand art
  - glue to their initial cut from lightweight tag board



Adapted from: <http://www.ehow.com/ehow-mom/blog/make-it-diy-rainbow-sensory-box/>



### crafts 15-20 min.

## Arts and

#### Grain-filled maracas

1. Identify the grains and provide every student with a teaspoon each of wheat, oats, and corn. Show pictures of foods made with these grains.
2. Give each student a plastic egg, a variety of decorative colored duct tapes, scissors, and two plastic spoons.
3. Place the grains inside the egg and seal with one strip of colorful tape.
4. Add a spoon on each side of the egg with the handles of the spoon meeting to form a handle. Add more decorative tape around the handles.
5. Play the maracas with a peppy song such as “Macarena”.



**Grain-filled Maracas**



**1. Fill plastic eggs with 1 teaspoon of grain seeds.**



**2. Seal with plastic tape. Add two plastic spoons and tape securely.**



**3. Tape spoon handles together. Add stripes or dots of decorative tape.**



## Review and wrap-up 10-15 min.

**Play Food Groups Game for Grains. Play one of the following review games using the cards.**

**Memory Game:**

1. Mix the game cards. Lay the cards on a flat surface facing down.
2. Each player takes a turn flipping two cards to see if they get a match or not. If they find a match they must remove the two cards from the game.
3. The player with the matched cards will have a chance to go again.
4. If a player's two cards do not match they must turn the cards back over and it is the next player's turn.
5. The player with the most matched pairs wins.

**Password:**

1. Play in teams of two.
2. One player draws a card and without showing it to the partner gives verbal clues one at a time to the teammate who tries to guess the food on the card.
3. The turn is over when the card is identified or 4 clues have been given and no guess is correct.
4. Team with the most cards identified wins.

**Go Fish:**

1. Distribute 6 cards to each player to hold in their hand. The remainder go on the "draw pile".
2. The goal is to get pairs of cards which are laid on the table as each player acquires them.
3. Taking turns players ask for cards from another player that will match ones in their hand in order to make a pair.
4. If the player questioned does not have the card, he or she instructs the asker to "Go Fish".
5. Winner is the first one to lay down all cards.

**Flash Cards:**

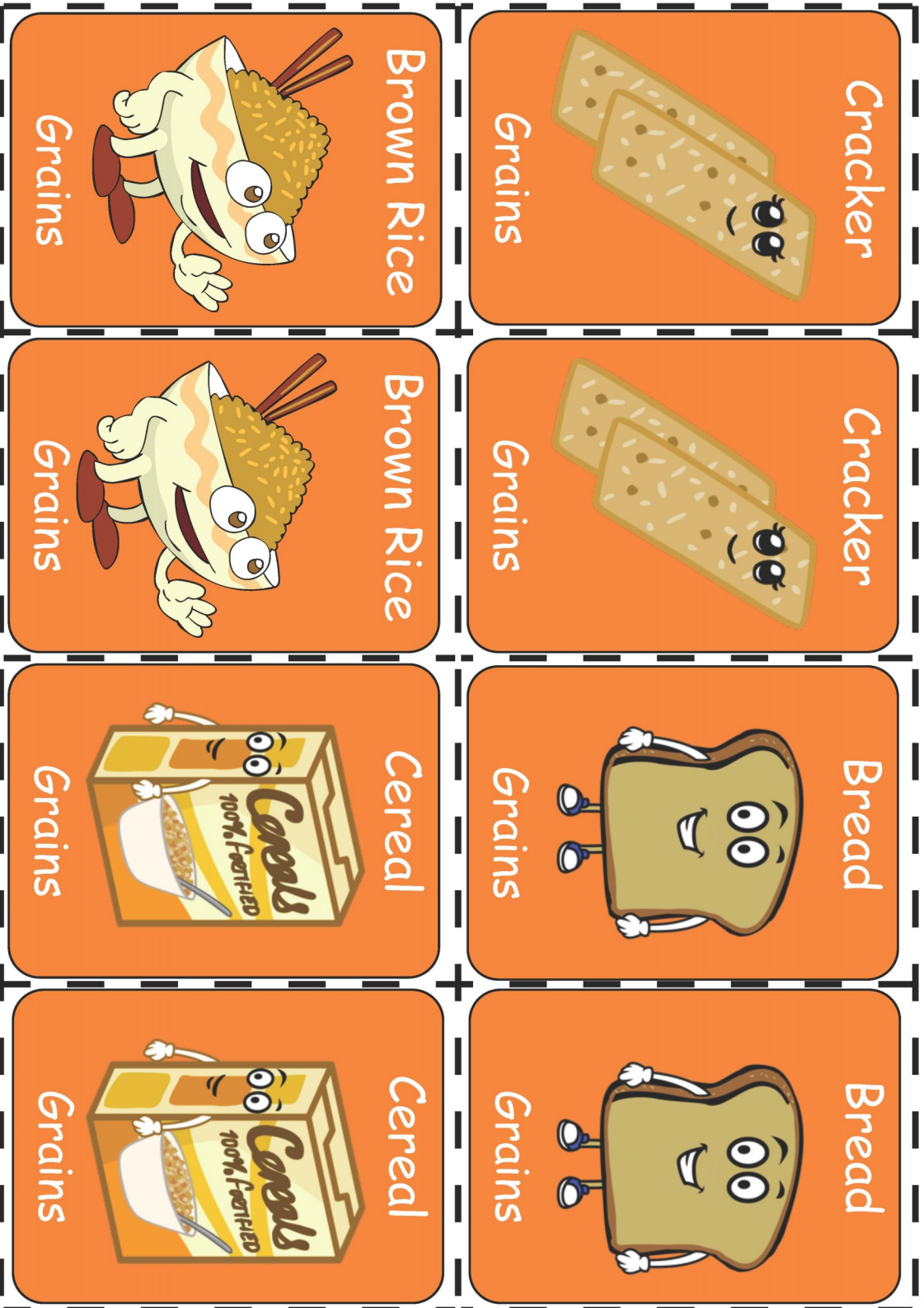
1. Show to younger students and have them identify the dairy food or give a fact learned that day.

*Ask students which whole grain foods they will try in the next several days.*





# Learning The Food Groups Memory Card Game - Grains Group



Visit [www.ChefSolus.com](http://www.ChefSolus.com) for Free online nutrition games, healthy interactive tools, food group worksheets and activities, recipes and tips!

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